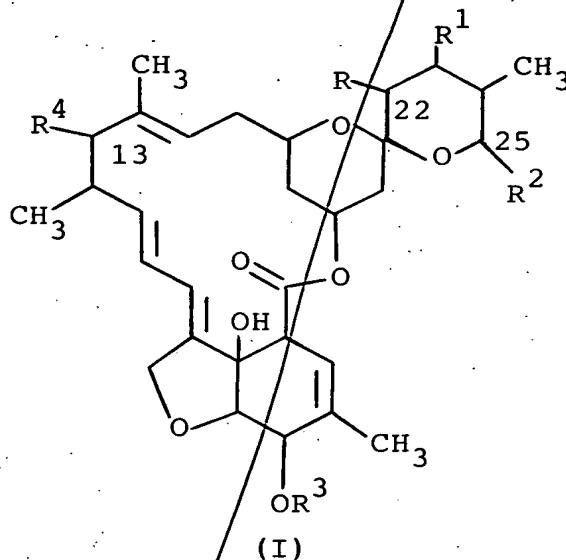


CLAIMS

*Sub B1*

1. A compound having the formula

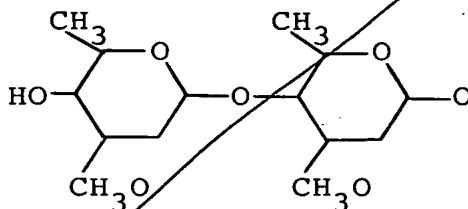


wherein R when taken individually is H;  $R^1$  when taken individually is H or OH; R and  $R^1$  when taken together represent a double bond;

$R^2$  is an alpha-branched  $C_3$ - $C_8$  alkyl, alkenyl, alkynyl, alkoxyalkyl or alkylthioalkyl group; a  $C_5$ - $C_8$  cycloalkylalkyl group wherein the alkyl group is an alpha-branched  $C_2$ - $C_5$  alkyl group; a  $C_3$ - $C_8$  cycloalkyl or  $C_5$ - $C_8$  cycloalkenyl group, either of which may be substituted by methylene or one or more  $C_1$ - $C_4$  alkyl groups or halo atoms; or a 3 to 6 membered oxygen or sulphur containing heterocyclic ring which may be saturated, or fully or partially unsaturated and which may be substituted by one or more  $C_1$ - $C_4$  alkyl groups or halo atoms;

$R^3$  is hydrogen or methyl;

$R^4$  is H or a 4'-(alpha-L-oleandrosyl)-alpha-L-oleandrosyloxy group of the formula:



with the proviso that when  $R^2$  is alkyl it is not isopropyl or sec-butyl; when  $R^4$  is H, each of R and  $R^1$  is H, and  $R^2$  is not methyl or ethyl; and when  $R^4$  is H, R is H,  $R^1$  is OH, and  $R^2$  is not 2-buten-2-yl, 2-penten-2-yl or 4-methyl-2-penten-2-yl.

2. A compound according to claim 1 wherein  $R^4$  is 4'-(alpha-L-oleandrosyl)-alpha-L-oleandrosyloxy.

3. A compound according to claim 2 wherein R is H and  $R^1$  is H or OH.

4. A compound according to claim 3 wherein  $R^2$  is a  $C_3$ - $C_8$  cycloalkyl which may be substituted by a  $C_{1-4}$  alkyl or a halo group.

5. The compound according to claim 4 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is cyclopentyl.

6. The compound according to claim 4 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is cyclohexyl.

7. The compound according to claim 4 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is cyclobutyl.

8. The compound according to claim 4 wherein R is H;  $R^1$  is OH;  $R^3$  is H and  $R^2$  is cyclobutyl.

9. The compound according to claim 4 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is 2-methylcyclopropyl.

10. A compound according to claim 3 wherein  $R^2$  is  $C_{5-8}$  cycloalkenyl.

11. The compound according to claim 10 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is cyclohex-3-enyl.

H 12. A compound according to claim 3 wherein  $R^2$  is a 3 to 6 membered oxygen or sulfur containing heterocyclic ring which may be saturated or unsaturated or substituted by a halo group.

a H 13. The compound according to claim 12 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is 3-thienyl.

H 14. The compound according to claim 12 wherein R is H;  $R^1$  is OH;  $R^3$  is methyl and  $R^2$  is 2-furyl.

H 15. A compound according to claim 3 wherein  $R^2$  is alkylthioalkyl.

L 16. The compound according to claim 15 wherein  $R^2$  is 1-methylthioethyl;  $R^1$  is OH and each of R and  $R^3$  is hydrogen.

H 17. A compound according to claim 2 wherein R and  $R^1$  taken together represent a double bond.

19 18. A compound according to claim 17 wherein  $R^2$  is a  $C_3-C_8$  cycloalkyl group.

19 19. The compound according to claim 18 wherein  $R^2$  is cyclohexyl and  $R^3$  is hydrogen.

20. The compound according to claim 18 wherein  $R^2$  is cyclopentyl and  $R^3$  is hydrogen.

21. The compound according to claim 18 wherein  $R^2$  is cyclobutyl and  $R^3$  is hydrogen.

22. A compound according to claim 17 wherein  $R^2$  is a 3 to 6 membered oxygen or sulfur containing heterocyclic ring which may be saturated or unsaturated.

H 23. The compound according to claim 22 wherein  $R^2$  is 3-thienyl and  $R^3$  is methyl.

24. The compound according to claim 22 wherein  $R^2$  is 3-thienyl and  $R^3$  is hydrogen.

25. The compound according to claim 22 wherein  $R^2$  is 3-furyl and  $R^3$  is hydrogen.

H  
19  
26. A compound according to claim 17 wherein  $R^2$  is a  $C_5-C_8$  cycloalkenyl group.

27. The compound according to claim 26 wherein  $R^2$  is cyclohex-3-enyl and  $R^3$  is hydrogen.

H  
28. A compound according to claim 2 wherein each of R and  $R^1$  is H.

19  
29. A compound according to claim 28 wherein  $R^2$  is a  $C_3-C_8$  cycloalkyl group.

30. The compound according to claim 29 wherein  $R^2$  is cyclohexyl and  $R^3$  is H.

31. The compound according to claim 29 wherein  $R^2$  is cyclopentyl and  $R^3$  is H.

32. The compound according to claim 29 wherein  $R^2$  is cyclobutyl and  $R^3$  is H.

33. A composition for the treatment and prevention of parasitic infections in humans and animals which comprises an antiparasitically effective amount of a compound of claim 1 together with an inert diluent or carrier.

34. A composition according to claim 33 in the form of a liquid drench or an oral or injectable formulation.

35. A composition according to claim 33 in the form of an animal feedstuff or a premix or supplement for addition to animal feed.

36. A process for producing a compound according to claim 1 wherein R is H;  $R^1$  is H or OH;  $R^4$  is 4'-( $\alpha$ -L-oleandrosyl)- $\alpha$ -L-oleandrosyloxy; and R and  $R^1$  when taken together represent a double bond which comprises adding a carboxylic acid, or a salt, ester or amide thereof or oxidative precursor therefor, to a fermentation of an avermectin producing organism.

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37. A process for producing a compound according to claim 36 wherein R is H; R<sup>1</sup> is H or OH; R<sup>4</sup> is 4'-(alpha-L-oleandrosyl)-alpha-L-oleandrosyloxy; and R and R<sup>1</sup> when taken together represent a double bond which comprises fermenting an avermectin producing strain of the organism Streptomyces avermitilis in the presence of a carboxylic acid of the formula R<sup>2</sup>CO<sub>2</sub>H wherein R<sup>2</sup> is as defined in claim 1, or a salt, ester or amide thereof or oxidative precursor therefor.

38. A process according to claim 36 wherein the organism is Streptomyces avermitilis NCIB 12121.

39. A process according to claim 37 wherein the organism is Streptomyces avermitilis NCIB 12121.

~~36~~ 40. A method of combatting parasite infections or infestations which comprises contacting the organism responsible for said infection or infestation or the location of said organism with an antiparasitic amount of a compound according to claim 1.

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